QUAIL VALLEY SEWER ALTERNATIVES STUDY

By EMWD & PBS&J

EASTERN MUNICIPAL WATER DISTRICT

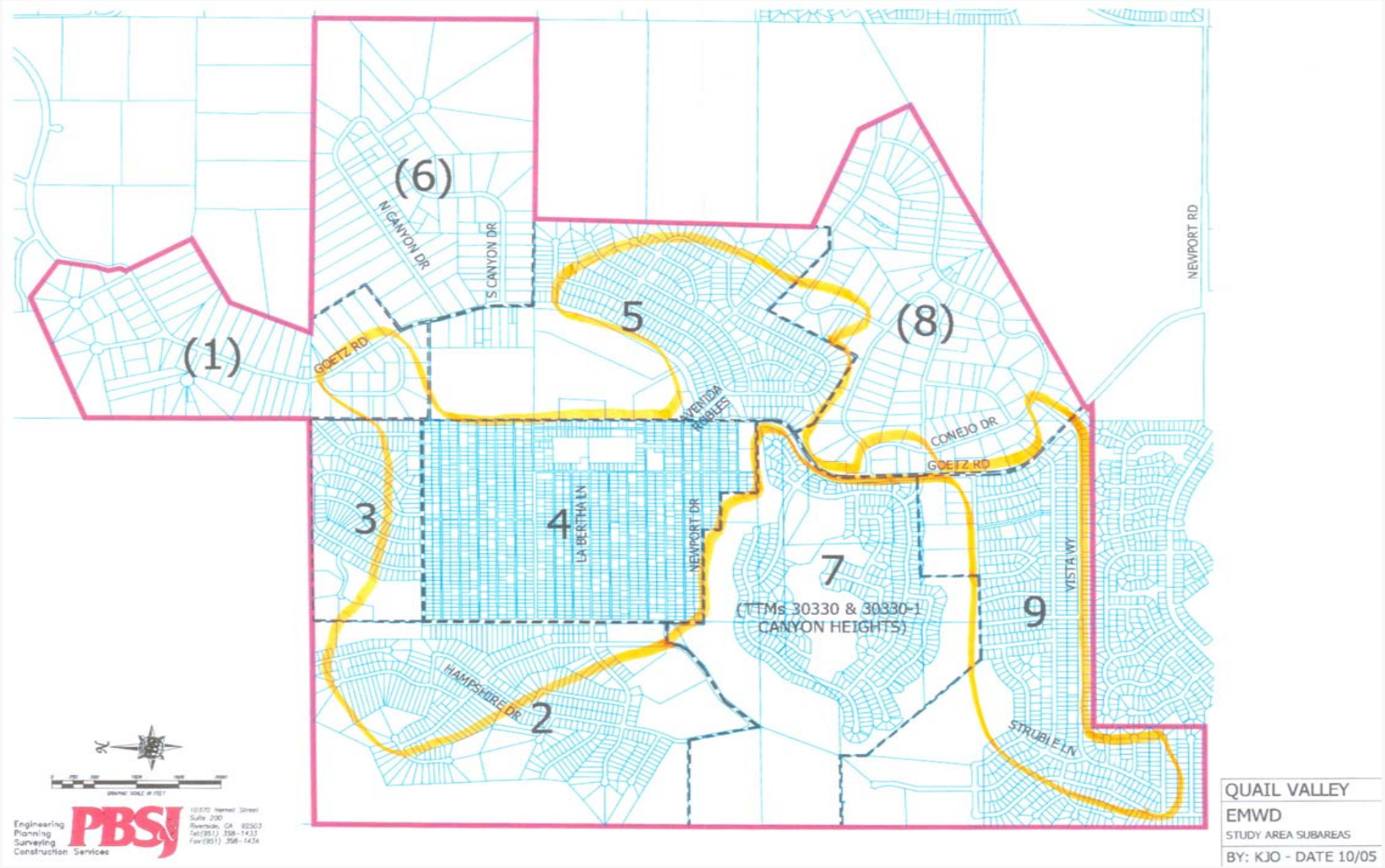
SINCE 1950

Note: The study is available on the District's website at www.emwd.org

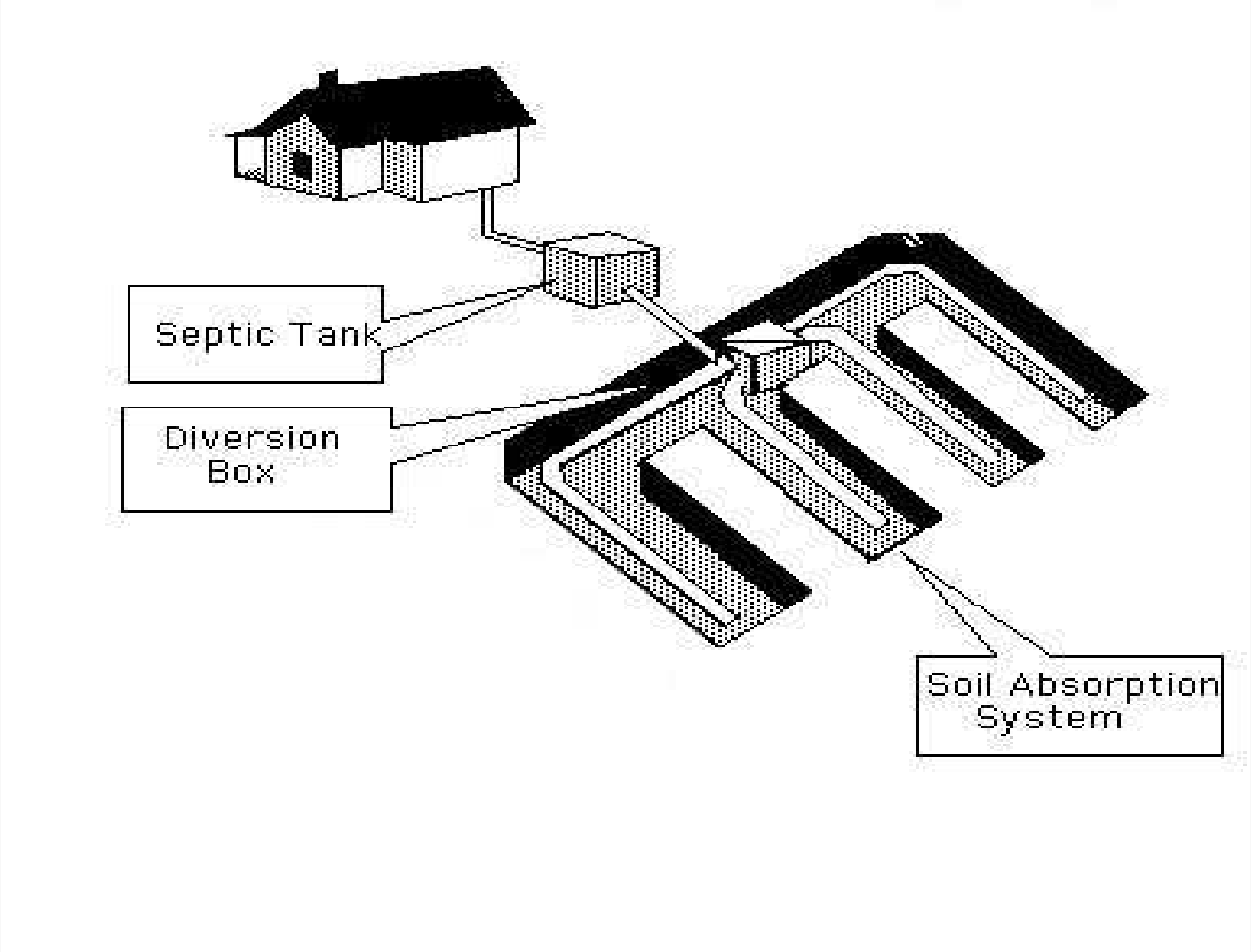
Quail Valley Sewer Study by PBS& J
Description Of Problem

- Shallow Groundwater
- Bedrock/Soil Type
- Hilly Topography
- Population/Density
- Failing Septic Systems

Septic Tank Overflows Map



A Septic Tank System



EMWD/PBS&J Quail Valley Sewer Study Topics

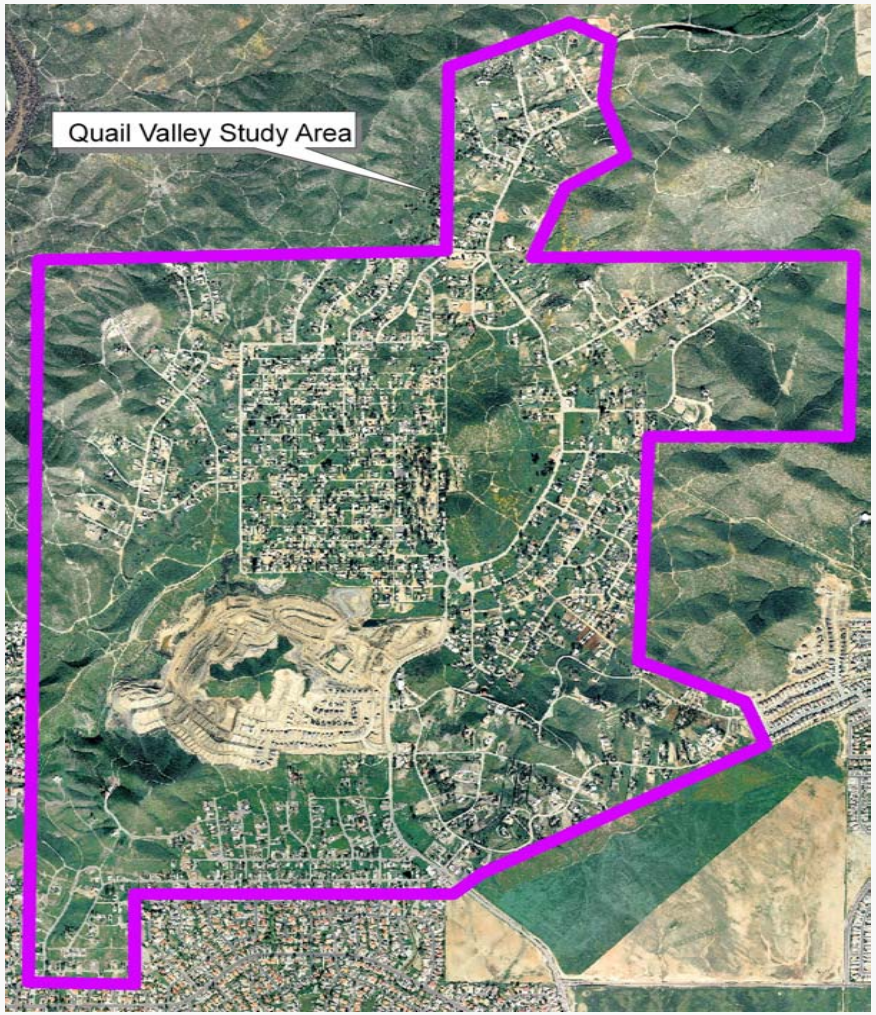
- Total ultimate dwelling units
- Sewer layout and feasibility
  - Depth
  - Rights of Way
  - Topography
  - Soil Type/Rock
- Geotechnical Study

EMWD/PBS&J Quail Valley Sewer Study Topics

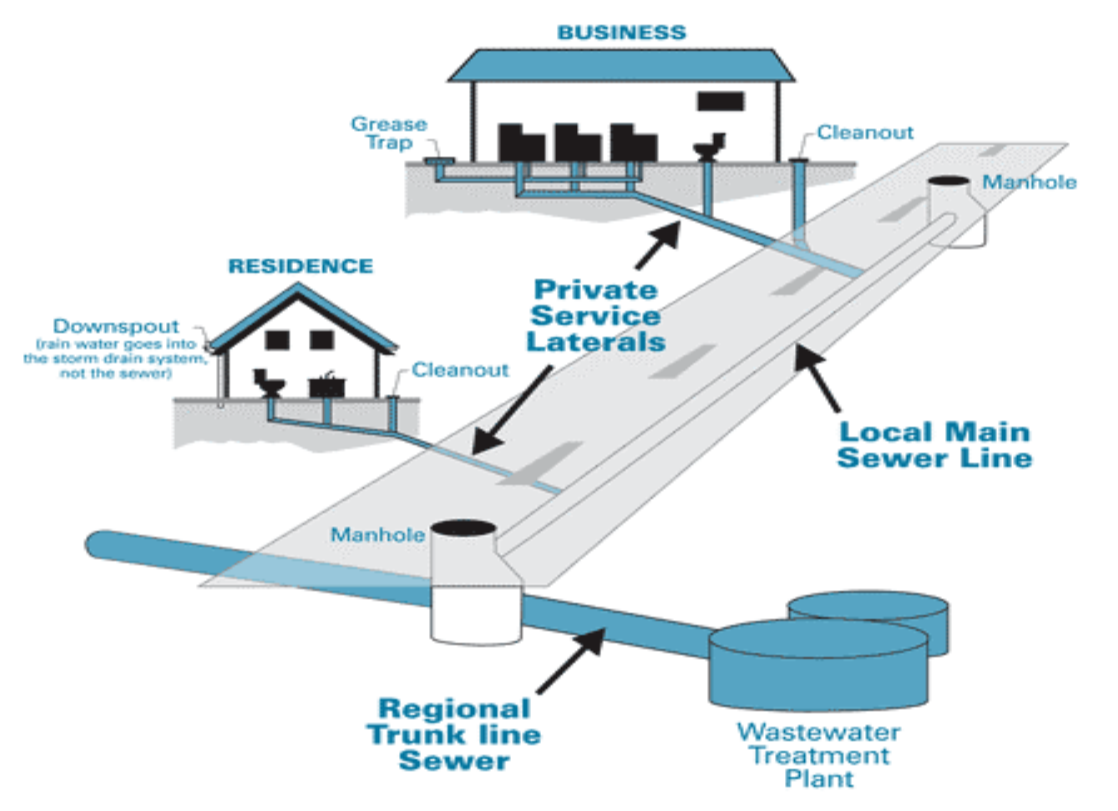
- Off-site Sewer Improvements
- Alternatives - Gravity, Vacuum, Low Pressure, Combination, STEP Systems
- Construction Cost Estimate
- Life Cycle Cost

Dwelling Units

- 1,390 Existing dwelling units
- 3,420 Total future dwelling units (excluding Canyon Heights Tract)



A Sewer System



Considerations:

- Depth
- Rights of Way
- Topography
- Soil Type/Rock

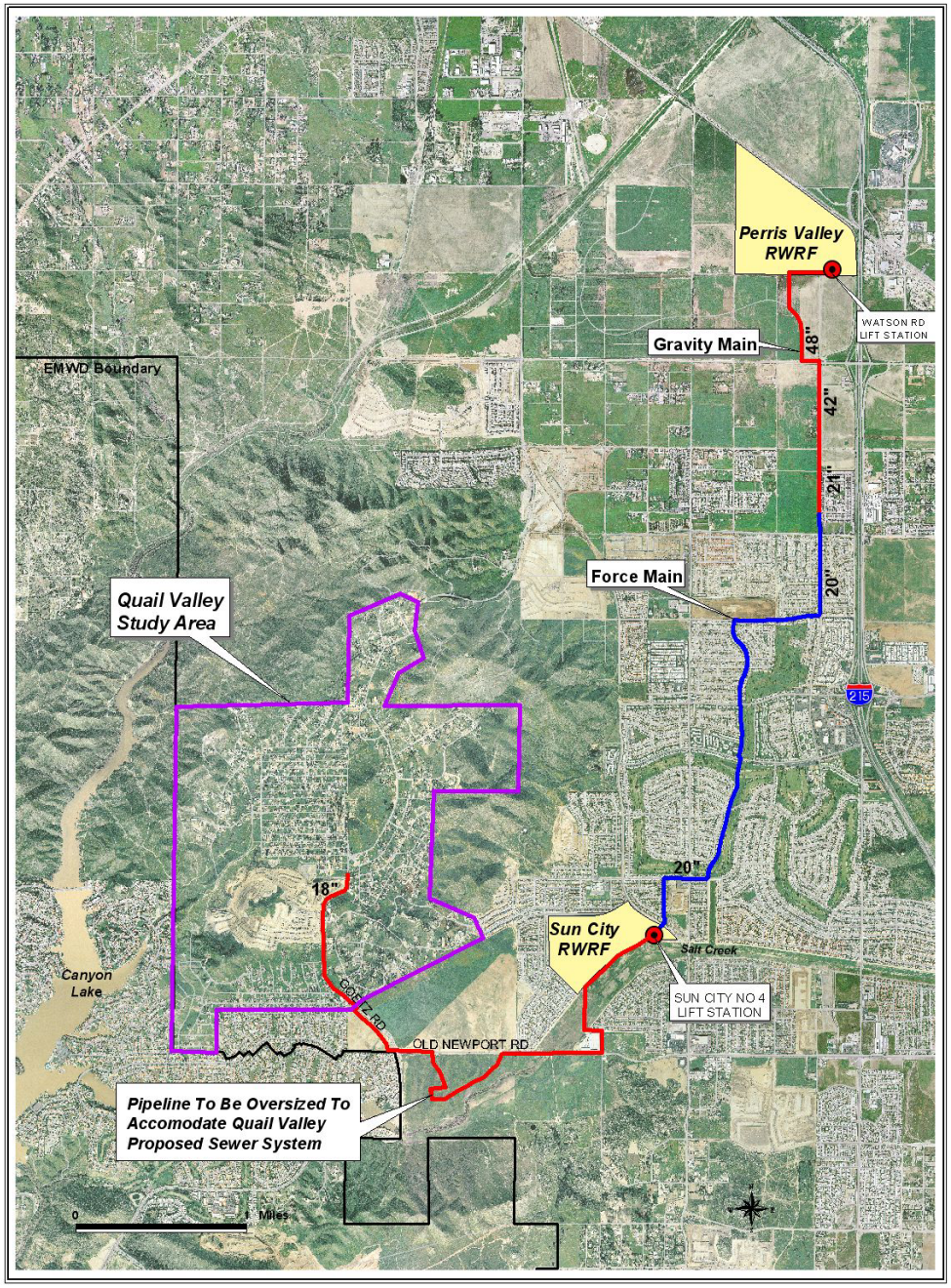
Topography

- The hilly topography presents a great challenge to sewer construction

- Shallow bedrock

Geotechnical Study Conclusions

"The primary issues... are related to shallow bedrock and groundwater. Bedrock may be difficult to excavate using large conventional excavators below a depth of five to ten feet."



Off-site Sewer

Quail Valley to EMWD's Perris Valley Regional Water Reclamation Facility

Connection Fee

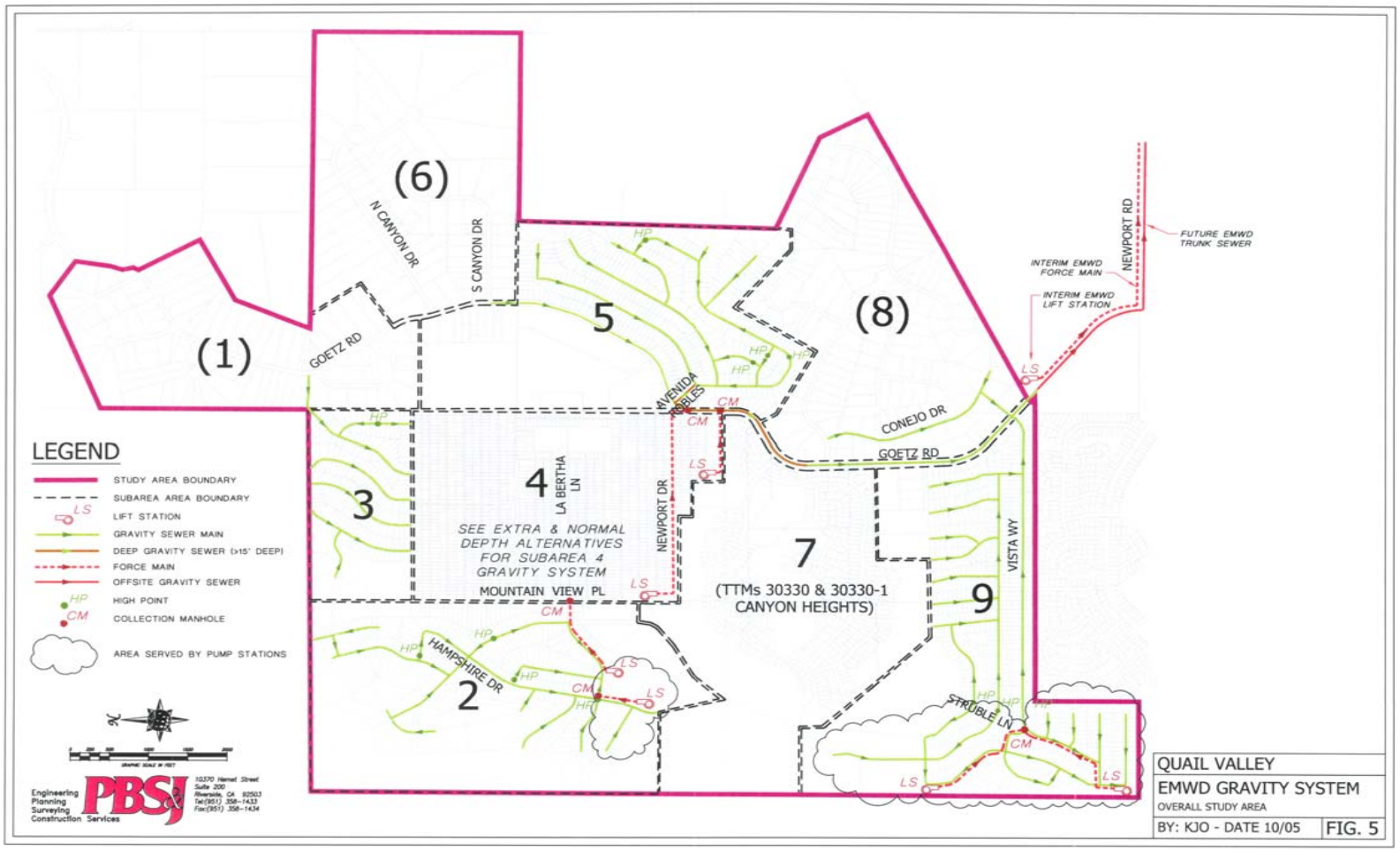
- $4,185 per Equivalent Dwelling Unit
- Covers past and ongoing construction projects including:
  - Construction of the Perris Valley Regional Water Reclamation Facility (PVRWRF) Tertiary Expansion
  - Construction of the Sun City Lift Station, Force Main and Interceptor sewer.
- Additional $300 fee for new homes for Recycled Water System construction

Best Alternatives

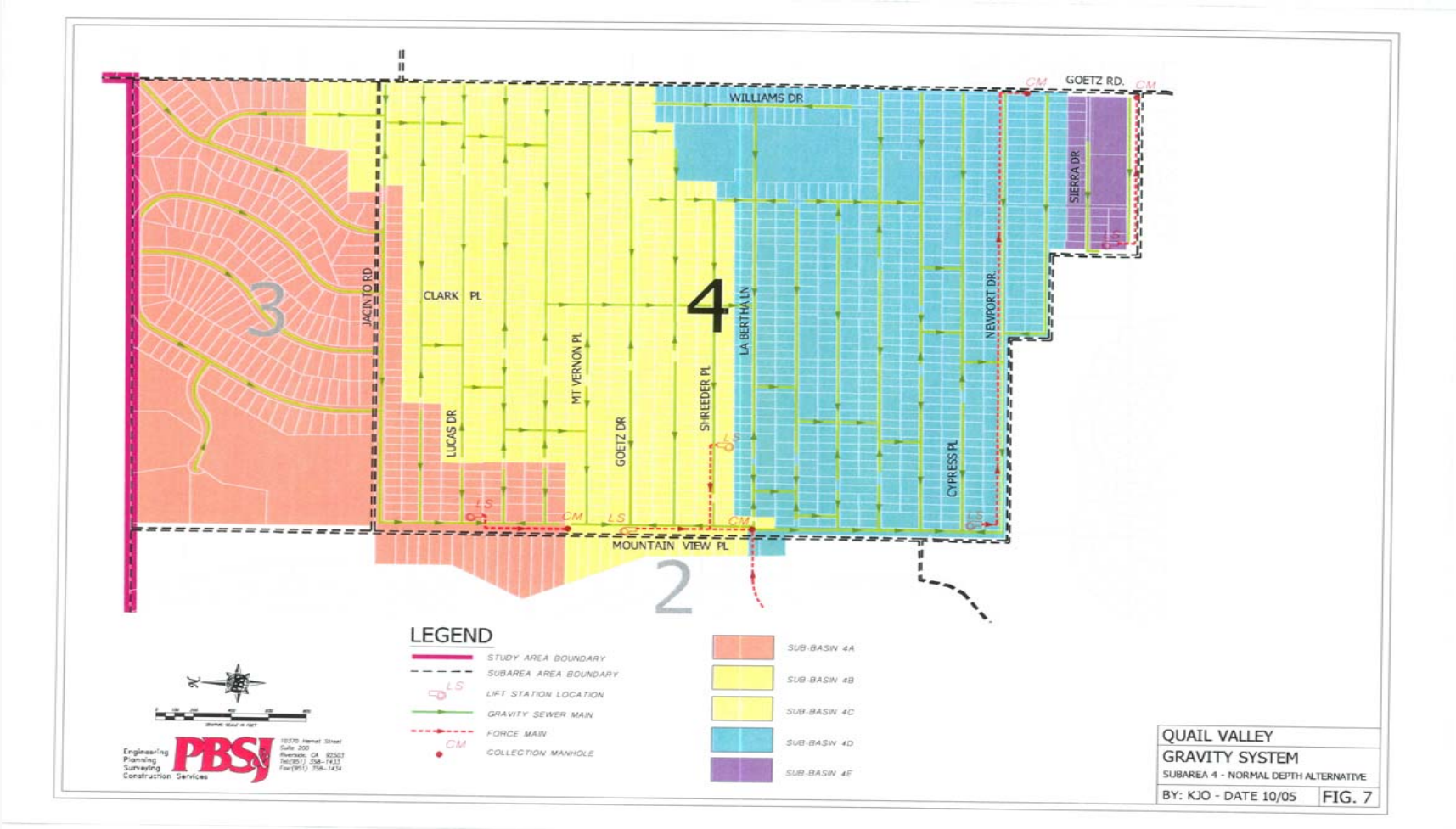
- Alternative 1 - Conventional gravity/ lift station sewer system

- Alternative 2 - Combination low pressure and conventional gravity sewer system

Conventional Gravity Sewer layout Alternative 1

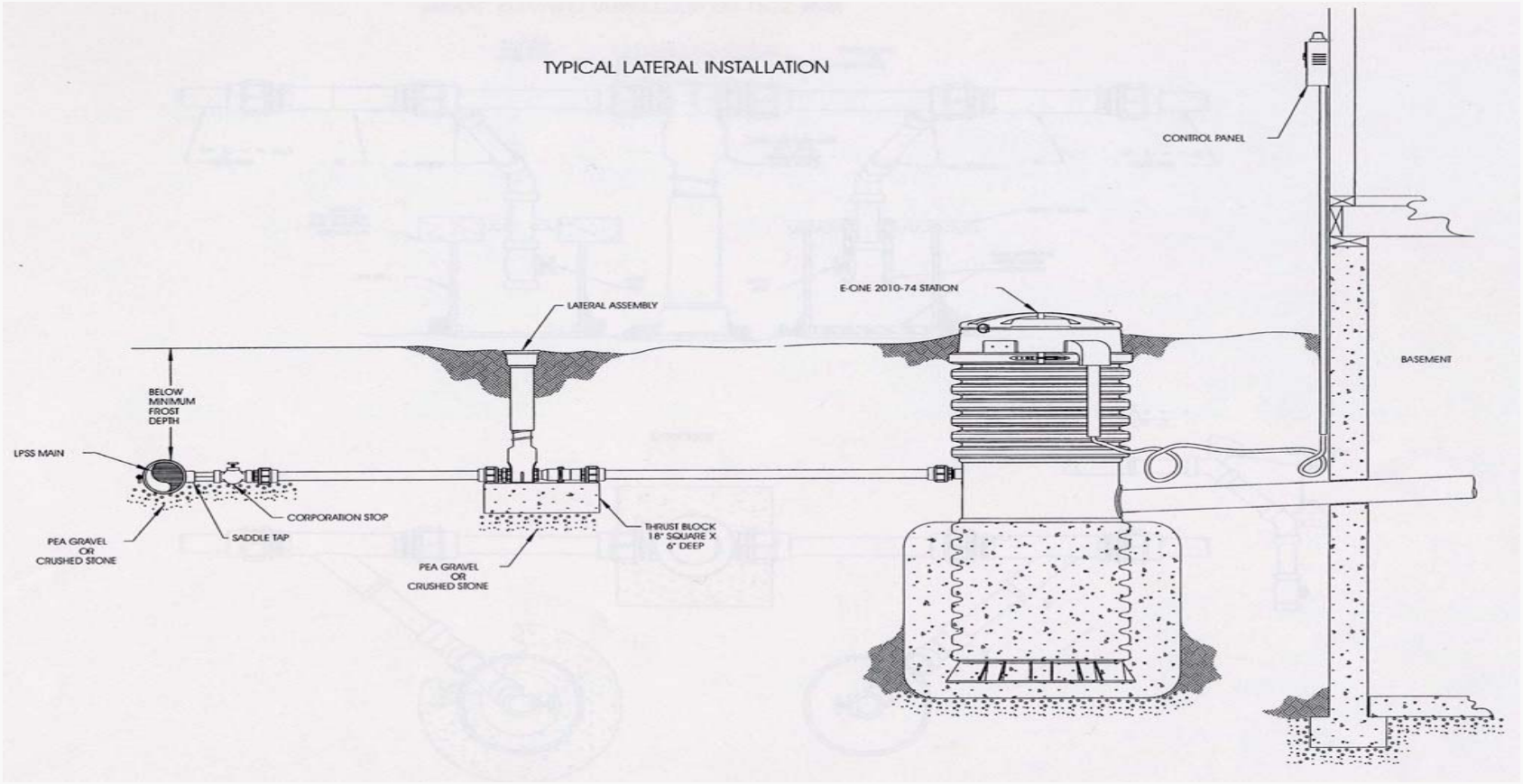


Potential Gravity Sewer layout for Subarea 4



Alternative 2

- Combination gravity sewer/lift stations with a low pressure sewer system in Subarea 4.



Costs

Alternatives	Capital Cost	Life Cycle Cost
1) Gravity Sewer	$60M	$70M
2) Combination Sewer	$44M	$66M

- Capital Cost: Initial cost to construct the sewer system
  - ✓ Includes: Administration, Easements/Property Acquisition, Design, Construction, Inspection, Survey, & Compaction Testing

- Life-cycle Cost: Total cost of the sewer system
  - ✓ Includes: Initial cost to install + ongoing operations & maintenance costs over a 60-year period

Funding Sources

- Low Interest Loans
- Grants
- Supplemental Environmental Project (SEP)
- Assessment District

Monthly Payment per House

	Sewer Rate	Assessment District
Monthly Payment	$23	$90 - $150

Schedule

Project Phase	Duration (months)		
Pursue Grant Funding	?		
Form Assessment District	?		
Design & Acquire Easements	12	-	16
Advertise, Bid, & Award	2	-	4
Construction	24	-	30
TOTAL (months)	**38**	**-**	**50**
TOTAL (years)	**3**	**-**	**4**

The study is available on the District's website at

www.emwd.org

Questions?